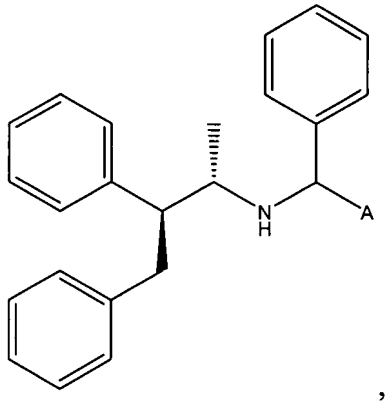
REMARKS

Reconsideration of the application is respectfully requested in view of the following remarks. Claims 1-10 and 16-20 were pending in the present application. Claims 1-10 and 16-20 are subject to a restriction requirement. Claims 1-10 and 16-20 are currently pending.

RESTRICTION REQUIREMENT UNDER 35 U.S.C. 121

The Examiner indicated that the inventions listed as Groups do not relate to a single inventive concept under 35 USC 121 or PCT Rule 13.1 (unity of invention). The Examiner has required restriction to one of the following inventions under 35 USC 121 and 35 USC 372:

Group I. Claim 1-10, (in part), drawn to a product having the core formula



wherein the three phenyl groups and A may be substituted in accordance with the claims.

Group II. Claims 1-10, (in part), drawn to a product claimed and not a member of Group I.

Group III. Claims 16-20, (in part), drawn to a method of using the products of Group I.

Group IV. Claims 16-20, (in part), drawn to a method of using the products of Group II.

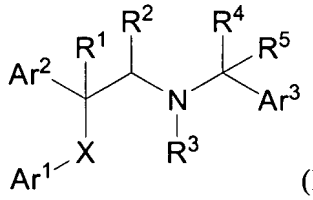
Applicants hereby provisionally elect Group I Claims 1-10, (in part), with traverse.

Under PCT Rule 13.1, the International Application shall relate to one invention only or to a group of inventions so linked as to form a "single general inventive concept." Under PCT Rule 13.2

where a group of Inventions is claimed in the same International Application, the requirement of the unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a "technical relationship" among those inventions involving one or more of the same or corresponding "special technical features." The term "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. The determination is made on the contents of the claims as interpreted in light of the description.

Applicants respectfully submit that the instant application complies with the requirement for unity of invention. Under Markush practice governed by Rule 13, the requirement of a technical interrelationship with the same or corresponding special technical features, as defined under Rule 13.2, is considered to be met when the alternatives are of a similar nature. According to Rule 13.2(i), when the Markush grouping is for alternatives of chemical compounds, they shall be regarded as being of a similar nature where the following criteria are fulfilled: (A) all alternatives have a common property or activity, and (B)(1) a common structure is present, i.e. a significant structural element is shared by all of the alternatives. Applicants submit that the compounds of structural formula (I), in which the Ar1, Ar2, X, R1, R2, R3, R4, R5 and Ar3 substituents represent alternatives, have the common property of being cannabinoid -1 receptor antagonists/inverse agonists that are useful to treat or prevent disorders, diseases or conditions responsive to the antagonism or inverse agonism of the cannabinoid -1 receptor, such as obesity, and diabetes.

Applicants further submit that the significant structural element shared by all of the alternative compounds in claims 1-10 and 16-20 of the present invention is the core structure, or common chemical structure, of formula (I):

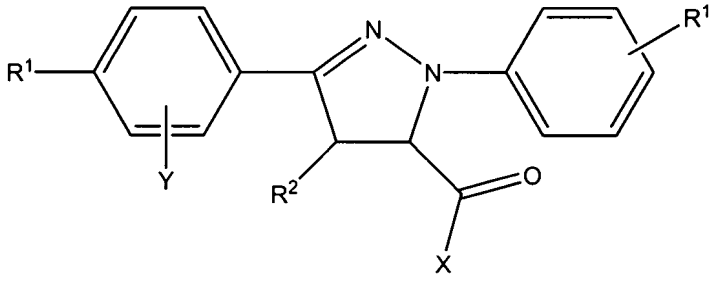


(I),

wherein Ar3 is selected from cycloalkyl, ary and heteroaryl and wherein X is selected from bond, alkyl, oxygen, sulfur and NRc. The commonly shared core structure of formula (I) constitutes a structurally distinctive portion of the molecule.

The Examiner indicated that the non-variable core structure that is common to all of the claims is C-C-N-C which is clearly not a contribution over the prior art; for example, this combination is taught throughout the chemical arts including in US 3,753, 978. Applicants

respectfully disagree. Applicants submit that US 3,753,978 does not disclose compounds with a C-C-N-C core, rather the compounds in the examples and in the claims are pyrazoline compounds in which the core structure contains a the following pyrazoline ring system:



in which two adjacent nitrogens are present.

The present invention does not allow a substitution pattern with two adjacent nitrogens or a pyrazoline ring in the core structure. Applicants submit that there is no overlap in the core structures of the present invention and US 3,753,978. Applicants further submit that the core structure of US 3,753,978 is not a Markush alternative, rather it is a fixed, required part of the molecules claimed in US 3,753,978. As a result, the core structure of US 3,753,978, and the compounds of US 3,753,978, do not anticipate, teach or suggest the compounds or the core structure of the compounds of the present invention.

Applicants further submit that it is the compounds of the instant application as a whole, (the core plus the substituents) that are contributions over the prior art; it is not just the core structure of the compounds that is the contribution over the prior art.

Applicants also submit that the "special technical relationship" that links the various putative inventions into a "single inventive concept" is the ability of the instant compounds of formula (I) to antagonize or inversely agonize the cannabinoid -1 receptor in a human or an animal. The compounds of structural formula (I) provide the common "special technical feature" among these groups. In this regard, the Examiner's attention is drawn to Annex B, Part 2 of PCT Gazette – Section IV, No. 03/2001, entitled "Examples Concerning Unity of Invention", in particular, Example 1 on page 52 and Examples 15 and 16 on page 55.

Applicants respectfully submit that the methods of Group III are related to the compounds structural formula (I) in Group I as product and process of use. The method for determining unity of invention under Rule 13 permits the inclusion of a claim for the use of the product. The present invention is directed to compounds of formula (I), which are cannabinoid -1 receptor antagonists/inverse agonists useful for the treatment or prevention of disorders, diseases or conditions responsive to the antagonism or inverse agonism of the cannabinoid-1 receptor. The specification of the present application notes that it is known in the art that

antagonism or inverse agonism of the cannabinoid-1 receptor would be beneficial for the alleged utilities, including the treatment and prevention of obesity and diabetes. Applicants respectfully submit that the compound of structural formula (I), in Group I and in the method claims 16-20 of Group III, is in fact the common special technical feature required by the Examiner. It is the compound of structural formula (I) that is the contribution that this invention, as a whole, makes over the prior art. The primary active ingredient employed in the method claims 16-20 (Group III) is a compound of structural formula (I). Furthermore, the technical relationship linking Group I and Group III is the ability of the compounds of formula (I) to antagonize or inversely agonize the cannabinoid -1 receptor in a human or an animal.

Applicants respectfully request that Group I, include the compounds of formula (I) wherein Ar3 is phenyl or cycloalkyl and R2 is C1-4 alkyl and wherein the stereochemistry is not defined (since the examples disclose diastereomers A and B for many of the compounds, not just this specific stereochemistry).

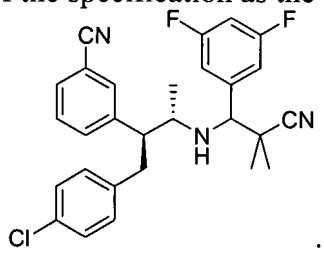
Applicants submit that Group I should not be limited to the disclosed stereochemistry because the examples of the present application disclose both A and B diastereomers, which are also enantiomers of each other. On page 11, lines 10-13 the specification discloses that the compounds of the present invention may contain one or more asymmetric centers and can occur as racemates, racemic mixtures, single enantiomers, diastereomeric mixtures and individual diastereomers and that the invention is meant to comprehend all such isomeric forms of the compounds of formula I.

Applicants further submit that the compounds of Requested Group I represent alternatives under Rule 13.2(i), have the common property of being cannabinoid -1 receptor antagonists/inverse agonists that are useful to treat or prevent disorders, diseases or conditions responsive to the antagonism/inverse agonism of the cannabinoid -1 receptor, such as obesity, and diabetes. Applicants further submit that the common core structure of Requested Group I, in which Ar1, Ar2, Ar3 and R2 are as defined above, constitutes a structurally distinctive portion of the molecule. Applicants submit that the "special technical relationship" that links the various putative inventions into a "single inventive concept" is the ability of the compounds of Requested Group I to antagonize or inversely agonize the cannabinoid -1 receptor in a human or an animal.

Applicants submit that the method claims of Groups III and IV are related to the compounds of Requested Group I as product and process of use. Applicants further submit that there is a common technical feature between Requested Group I and Groups III and IV, since the primary active ingredient employed in the method claims in Groups III and IV is a compound

with the core structural formula of Requested Group I. Applicants therefore request that the method claims in Groups III and IV as they relate to the compounds of Requested Group I be included in Requested Group I.

Applicants are required under 35 USC 121 to elect a single disclosed species for prosecution on the merits to which the claims will be restricted if no generic claim is finally held to be allowable. Applicants hereby elect the compound of Example 37, which is 3-(1(S)-(4-chlorobenzyl)-2(S)-((1-(3,5-difluorophenyl)-2-cyano-2-methylpropyl)amino)propyl) benzonitrile (Diastereomer A), on pages 91-92 of the specification as the elected species:



The following claims read on the elected species: 1-7 and 9-15.

Applicants make the above election with the understanding that, if the elected species is found to be allowable, the Examiner will examine the genus claims readable thereon and a reasonable number of disclosed species in addition to the elected species.

In light of the above reasons, Applicants respectfully request that the requirement for restriction between Groups I, II, III, and IV be withdrawn. In the event that the restriction requirement is made final, Applicants elect Group I, as indicated, holding Groups II, III, and IV in abeyance for further prosecution in a divisional application.

Applicants believe that all of the objections have been overcome and therefore earnestly solicit an early Notice of Allowance.

Respectfully submitted,

By Baerbel R. Brown

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